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in dynamic race detection is based on Lamport's **happensbefore** relation [Lamport 1978] and checks that
www.cs.washington.edu/homes/savage/papers/Tocs97.pdf

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dynamic race detection is based on Lamport's **happens-before** relation[Lamport 78] and checks that
www.cs.washington.edu/homes/savage/papers/sosp97.ps

[A Unified Formalization of Four Shared-Memory Models](#) - Adve (1993) (Correct) (104 citations)

This paper presents a shared-memory model, **data-race-free-1**, that unifies four earlier models: weak
ftp.cs.wisc.edu/markhill/Papers/topds93_drf1.ps

[Sufficient Conditions for Implementing the Data-Race-Free-1..](#) - Sarita Adve (1992) (Correct) (4 citations)

1992 Sufficient Conditions for Implementing the Data-Race-Free-1 Memory Model Sarita V. Adve Mark
denotes synchronization-order-1, hb1 denotes **happens-before-1**, and xo denotes execution order. A
www.ece.rice.edu/~sarita/Publications/dr1_tr.ps

[Happened Before is the Wrong Model for Potential Causality](#) - Tarafdar, Garg. (1998) (Correct)

happened before has been used in tools to detect **data races** in multi-threaded programs. Savage, et al [SBN
Before and Potential Causality If an event **happens** before another event, it has the potential for
Potential Causality True Causality Occurred **Before** Happened Before Potentially Causes Truly Causes (

www.ece.utexas.edu/~garg/dist/TR0698.ps.Z

[Towards Integration of Data Race Detection in DSM Systems](#) - In (Correct)

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follow the approach of [1, 19]based on the **happens-before** relation in [10]The basic observation is
www.cs.technion.ac.il/~assaf/publications/oren.ps

[Carlsberg: A Distributed Execution Environment Providing...](#) - Position.. (Correct)

such as the weak [12]release [16]and "Data Race Free 1" DRF1) 1,20] models, offer higher
are conceptually based on Lamport's **happens-before** relation, which captures the notion of
www.cs.rice.edu/~rjf/papers/NWPER94.ps.gz

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[Using Runtime Analysis to Guide Model Checking of Java Programs - Havelund \(2000\)](#) (Correct) (4 citations)runtime analysis algorithms, an existing **data race detection** algorithm and a new deadlock detection
ic.arc.nasa.gov/ic/publications/pdf/2000-0177.pdfOne or more of the query terms is very common - only partial results have been returned. Try [Google \(RI\)](#).[Improving the Accuracy of Data Race Detection - Netzer \(1991\)](#) (Correct) (27 citations)Improving the Accuracy of Data Race Detection Robert H. B. Netzer netzer@cs.wisc.edu
casaturn.kaist.ac.kr/~sikang/course/CS614/NM91.ps.gz[Optimal Tracing and Replay for Debugging Shared-Memory.. - Robert Netzer \(1993\)](#) (Correct) (19 citations)time and space complexity of on-the-fly **data race detection**, requiring $O(mp)$ space (where p is the
ftp.cpsc.ucalgary.ca/pub/users/stevef/Simulation/Reports1/cs93-15.ps.Z[Online Data-Race Detection via Coherency Guarantees - Dejan Perkovi \(1996\)](#) (Correct) (13 citations)Online Data-Race Detection via Coherency Guarantees Dejan Perkovi c
www.cs.umd.edu/~keleher/papers/osdi96.ps.gz[Detecting Data Races in Cilk Programs that Use Locks - Guang-Ien Cheng \(1998\)](#) (Correct) (6 citations)a data race is usually a bug, automatic **data-race detection** has been studied extensively. Static race
theory.lcs.mit.edu/pub/cilk/brelly.ps.gz[Shared Memory Consistency Conditions for Non-Sequential.. - Attiya, al. \(1993\)](#) (Correct) (14 citations)and B. Miller. Improving the Accuracy of Data Race Detection. In Proc. of the 3rd ACM Symposium on
casaturn.kaist.ac.kr/~sikang/course/CS614/ACFW93.ps.gz[Synthesizing Dynamic Programming Algorithms from Linear.. - Rosu, Havelund \(2001\)](#) (Correct) (1 citation)for Java. In earlier work, we implemented **data race detection** and deadlock detection algorithms for
ase.arc.nasa.gov/grosu/download/dtli.ps.gz[Analysis of Multithreaded Programs - Rinard \(2001\)](#) (Correct) (1 citation)parallel threads. Sections 4 and 5 discuss **data race detection** for activity management programs and
www.cag.lcs.mit.edu/~rinard/paper/sas01.ps[Detecting Data Races in Parallel Program Executions - Netzer \(1989\)](#) (Correct) (15 citations)and then present a two-phase approach to **data race detection** that attempts to validate the accuracy of
grilled.cs.wisc.edu/technical_papers/detecting.ps.Z[HPFIT: A Set Of Integrated Tools For The.. - Brandes.. \(1996\)](#) (Correct) (4 citations)and tools for automatic data distribution, **data-race detection**, static performance estimation, and
www.ens-lyon.fr/~desprez/FILES/RESEARCH/PAPERS/HPFIT/ws_part1.ps.gz[The D Editor: A New Interactive Parallel Programming Tool - Hiranandani, Kennedy.. \(1994\)](#) (Correct) (2 citations)performing automatic data decomposition [3]**data-race detection**, static performance estimation [4, 20]
softlib.rice.edu/pub/CRPC-TRs/reports/CRPC-TR94488.ps.gz[Execution Replay and Debugging - Ronsse, De Bosschere, de Kergommeaux \(Correct\) \(4 citations\)](#)be used to debug the program: visualisation, **data race detection**, etc. is possible during replay without
www.bruegge.in.tum.de/projects/AADEBUG/proceedings/debosschere-invited.ps.gz[FIAT: A Framework for Interprocedural Analysis and.. - Carle, Hall.. \(1995\)](#) (Correct) (1 citation)tools, including completed systems for **data race detection** and static performance estimation, and
softlib.rice.edu/pub/CRPC-TRs/reports/CRPC-TR95522-S.ps.gz[Algorithms for Data-Race Detection in Multithreaded Programs - Cheng \(1998\)](#) (Correct)

Algorithms for Data-Race Detection in Multithreaded Programs by Guang-LEN
www.lcs.mit.edu/publications/pubs/pdf/MIT-LCS-TR-758.pdf

[Non-intrusive on-the-fly data race detection using...](#) - Ronsse, De Bosschere (Correct)
Non-Intrusive On-The-Fly Data Race Detection Using Execution Replay. Michiel Ronsse
www.bruegge.in.tum.de/projects/AADEBUG/proceedings/20ronsse.ps.gz

[Design and Implementation of the D Editor \(Extended Abstract\)](#) - Hiranandani, al. (Correct)
performing automatic data decomposition [2] **data-race detection**, static performance estimation [3, 13]
www.cs.umd.edu/projects/cosmic/papers/siam94.ps

[Distributed Shared Memory: Bridging the Granularity Gap](#) - Itzkovitz, Schuster (1999) (Correct)
services, such as garbage collection and **data race detection**. Indeed, using MultiView results in a
www.cs.umd.edu/~keleher/wsdsm99/1999/schuster-granularity.pdf

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: 3 1.2 Data Race Detection :

<ftp://cs.wisc.edu/pub/tech-reports/ncstrl.uwmadison/CS-TR-96-1322/CS-TR-96-1322.ps.Z>[Consistency Conditions for Distributed Shared Memories - Friedman](#) (1994) (Correct)and B. Miller. Improving the Accuracy of **Data Race Detection**. In Proc. of the 3rd ACM Symposium on casaturn.kaist.ac.kr/~sikang/course/CS614/Fri94.ps.gz[Algorithms for Data-Race Detection in Multithreaded Programs - Cheng](#) (1997) (Correct)Algorithms for **Data-Race Detection** in Multithreaded Programs by Guang-LEN
theory.lcs.mit.edu/pub/cilk/cheng-thesis.ps.gz[Detecting Data Races on Weak Memory Systems Sarita V. Adve.. - Computer Sciences](#) (Correct)we investigate the extension of dynamic **data race detection** techniques developed for sequentially
www.ece.rice.edu/~sarita/Publications/isca91.dataraces.ps[Compile-time Support for Efficient Data Race Detection in.. - John Mellor-Crummey](#) (Correct)Compile-time Support for Efficient **Data Race Detection** in Shared-Memory Parallel Programs John
softlib.rice.edu/pub/CRPC-TRs/reports/CRPC-TR92232.ps.gz[A Protocol-Centric Approach to On-The-Fly Race Detection - Dejan Perkovi](#) (Correct)present the design and evaluation of a new **data-race-detection** technique. Our technique executes at
www.cs.umd.edu/~keleher/papers/tpdsSubmit.ps.gz[Distributed Shared Memory: Bridging the Granularity Gap - Itzkovitz, Schuster](#) (Correct)services, such as garbage collection and **data race detection**. Indeed, using MultiView results in a
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runtime analysis algorithms, an existing data **race** detection algorithm and a new deadlock detection

Race condition! Variable x in class Value is

ic.arc.nasa.gov/ic/publications/pdf/2000-0177.pdf

[Parallel Application Software on High Performance Computers.. - Allan, Müller \(1999\) \(Correct\) \(2 citations\)](#)

: 25 4.2 **Race Conditions** :

: 22 3.5 **Using Condition Variables** :

www.dl.ac.uk/TCSC/Subjects/Parallel_Algorithms/SMPreport/smp_doc.ps

[Thread-Safe Message Passing With P4 and MPI - Aswini Chowdappa \(1994\) \(Correct\) \(3 citations\)](#)

concurrently without leading to erroneous results, **race** conditions or deadlocks. Multiple threads destroy)synchronization (mutual exclusion, **condition variable**, semaphores)and signal handling. An nscp01.physics.upenn.edu/parallel/environments/mpi/unify/reports/Message-Passing/p4-mpi-pthreads.ps.Z

[Advanced Thread Synchronization in Java - Heinlein \(Correct\)](#)

already high enough possibility of undesired **race** conditions evenfurther. Using the bounded buffer complicated by the fact that monitors and **condition variables** -w hich have been related, but separate www.netobjectdays.org/node/02/de/Conf/publish/.../.../pdf/02/papers/node/0361.pdf

[A Type System for Preventing Data Races and Deadlocks.. - Chandrasekhar.. \(Correct\)](#)

A Type System for Preventing Data **Races** and Deadlocks in Java Programs Chandrasekhar where clauses in [11, 24]Support for **Condition Variables**: In addition to mutual exclusion locks, www.lcs.mit.edu/publications/pubs/pdf/MIT-LCS-TR-839.pdf

[Systematic Testing of Multithreaded Programs - Bruening, Chapin \(Correct\)](#)

A toolcalled the Nondeterminator [FL97] detects data **races** in Cilk, a multithreaded variant of C. The or using an if insteadofawhile to test a **condition variable**. The rest of the paper is organized as www.lcs.mit.edu/publications/pubs/pdf/MIT-LCS-TM-607.pdf

[A Thread Visualization System - Michael Bedy And \(Correct\)](#)

to help students learn to avoid these risks (e.g.**race** conditions and deadlocks) This system uses an classes. Additionally, Monitor provides a **Condition variable** class. These classes provide a more www.cs.mtu.edu/~shene/NSF-3/visual.ps.gz

[Leader/Followers - Design Pattern For \(Correct\)](#)

request into/from the message queue. ffl Prevent **race** conditions on handle sets: Multiple threads that synchronizer, such as a mutex, semaphore, or **condition variable**. For instance, a pool of threads cannot www.cs.wustl.edu/~schmidt/lf.ps.gz

[A Portable Class Library for Teaching Multithreaded Programming - Steve Carr And \(Correct\)](#)

by a static analyzer for potential deadlocks and **race** conditions. At this stage, a student should have class Condition that implements classic **condition variables**. Since Cclasses are not synchronized, www.cs.mtu.edu/~shene/NSF-3/..../edu/ticse00.ps.gz

[A Model Checker for Statecharts \(Linking CASE tools with Formal.. - Day \(1993\) \(Correct\)](#)

: 18 2.2.2 Multiple Actions on a Transition and **Race Conditions** : 21

: 46 5.4 **Variable Condition** (var Cond)

: 47 5.4.3 Evaluating the **Variable Condition** :

ftp.cs.ubc.ca/ftp/local/techreports/1993/TR-93-35.ps.gz

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from different threads are separated by **synchronization events**. Happens-before algorithms handle manywww.cs.washington.edu/homes/savage/papers/sosp97.ps[Analysis of Event Synchronization in A Parallel Programming Tool - Callahan \(1990\) \(Correct\) \(35 citations\)](#)The objective is to be able to predict potential **data races** in a parallel program. The focus is on how

Analysis of Event Synchronization in A Parallel Programming Tool David

www.cs.cmu.edu/~jass/papers/ppopp90.ps[Cache Coherence Using Local Knowledge - Ervan Darnell \(1993\) \(Correct\) \(15 citations\)](#)

for significant improvements. 1 Introduction Data race free programs executing on a shared memory

cache or write-back cache triggered by **synchronization events**. Values are moved from main memory to
softlib.rice.edu/pub/CRPC-TRs/reports/CRPC-TR93560-S.ps.gz[Analyzing Traces with Anonymous Synchronization - David Helmbold \(1990\) \(Correct\) \(22 citations\)](#)semaphores. They distinguish between an actual **data race**, which is a **data race** exhibited by the

P. A. Emrath, S. Ghosh, and D. A. Padua. Event synchronization analysis for debugging parallel programs.

operations as capable of generating **synchronization events**. 1. Introduction 3 ffl and a (positiveftp.cse.ucsc.edu/pub/tr/ucsc-crl-89-42.ps.Z[Detecting Data Races by Analyzing Sequential Traces - Helmbold, McDowell, Wang \(1990\) \(Correct\) \(3 citations\)](#)

Detecting Data Races by Analyzing Sequential Traces David P.

P. A. Emrath, S. Ghosh, and D. A. Padua. Event synchronization analysis for debugging parallel programs.

objects are referenced between any two **synchronization events**. This can be done by generating an eventftp.cse.ucsc.edu/pub/tr/ucsc-crl-90-57.ps.Z[Towards Integration of Data Race Detection in DSM Systems - In \(Correct\)](#)

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[10]The basic observation is that in any **synchronization event** there is some kind of a logical token.in their code. We thus discuss **synchronization events** in terms of release and acquirewww.cs.technion.ac.il/~assaf/publications/oren.psTry your query at: [Amazon](#) [Barnes & Noble](#) [Google \(RI\)](#) [Google \(Web\)](#) [CSB](#) [DBLP](#)CiteSeer - citeseer.org - [Terms of Service](#) - [Privacy Policy](#) - Copyright © 1997-2002 [NEC Research Institute](#)